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=> d his

     (FILE 'HOME' ENTERED AT 08:29:22 ON 15 MAR 2008)
     FILE 'CA' ENTERED AT 08:29:32 ON 15 MAR 2008
         E SCHAFER E/AU
L1    65 S E3,E22
         E SCHAEFER E/AU
L2   100 S E3,E18
         E WINNEWISSER M/AU
L3   232 S E3-4
L4   120 S L1-3 AND(MICROWAVE OR TERAHERTZ OR THZ OR TERAHZ OR THERTZ OR
          (TERA OR T)(W)(HERTZ OR HZ) OR SUBMILLIMETER OR SUB MILLIMETER OR
          SUBMM OR SUB MM OR MICRON OR MICROMETER)
L5    74 S L4 AND(ONLINE OR LINE OR FREQUENCY OR STABIL? OR FREE)
L6     1 S L4 AND 1980/PY AND CHEM?/SO
L7     1 S L4 AND 1974/PY AND NATUR?/SO
L8     1 S L4 AND 1971/PY AND ANGEW?/SO
L9     1 S L4 AND 1983/PY AND SPECTRO?/SO
L10    2 S L4 AND 1981/PY AND PHYS?/SO
L11    1 S L4 AND 1982/PY AND PHYS?/SO
L12    1 S L4 AND 1983/PY AND STRUCT?/SO
L13   48 S L4 AND(ONLINE OR LINE OR STABIL? OR FREE OR SPECTROMETER/TI,ST,IT)
L14 3238 S (SPECTROMETER OR SPECTROGRAPH OR ANALY!ER OR RADIOMETER OR (ANALY?
          OR TEST?)(3A)(DEVICE OR SYSTEM OR INSTRUMENT))(6A)(MICROWAVE OR
          TERAHERTZ OR THZ OR TERAHZ OR THERTZ OR (TERA OR T)(W)(HERTZ OR HZ)
          OR SUBMILLIMETER OR SUB MILLIMETER OR SUBMM OR SUB MM OR MICRON OR
          MICROMETER)
L15   35 S L14 AND DATA(2A)(AQUISITION OR AQUIR? OR ACQUISITION OR ACQUIR?)
L16   33 S L14 AND(SCHOTTK? OR DETECT?)(2A)DIODE
L17   22 S L14 AND(FREQUENCY OR TIME)(3A)(MARKER OR MARKING OR CALIBRAT? OR
          REFERENC?)
L18   10 S L14 AND FREQUENCY(4A)SWEEP?
L19  159 S L14 AND (SOLID STATE OR COMPACT OR PORTABLE OR MINIATUR?/TI,IT,ST
          OR (OSCILLATOR/TI,ST,IT NOT(BACKWARD WAVE OR BWO)))
L20  299 S L6-13,L15-19
L21  226 S L20 AND PY<2003
     FILE 'INSPEC' ENTERED AT 09:15:17 ON 15 MAR 2008
L22   96 S L17
L23   74 S L22 AND PY<2003
     FILE 'CA, INSPEC' ENTERED AT 09:18:26 ON 15 MAR 2008
L24  293 DUP REM L21 L23 (7 DUPLICATES REMOVED)

=> d bib,ab l24 1-293

L24  ANSWER 26 OF 293  CA  COPYRIGHT 2008 ACS on STN
AN   133:112177  CA
TI   Tunable terahertz-wave parametric oscillators using LiNbO3 and
     MgO:LiNbO3 crystals
AU   Shikata, Jun-Ichi; Kawase, Kodo; Karino, Ken-Ichi; Taniuchi, Tetsuo;
     Ito, Hiromasa
CS   Research Institute of Electrical Communication, Tohoku University,
     Sendai, 980-8577, Jordan
SO   IEEE Transactions on Microwave Theory and Techniques (2000), 48(4, Pt.
     2), 653-661
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AB Coherent tunable terahertz waves were generated successfully using a terahertz-wave parametric oscillator (TPO) based on laser light scattering from the A1-symmetry polariton mode of LiNbO3. This method has several advantages, such as continuous and wide tunability (frequency: 0.9-3.1 THz), a relatively high peak power (more than a few milliwatts), and compactness of its system (tabletop size). The system simply requires a fixed-wavelength pump source, and it is easy to tune. This paper deals with the general performance of this terahertz-wave source using the prism output-coupler method as well as the development and applications of the system. Its tunability, coherency, power, and polarization were measured, and this tunable source was used for terahertz spectroscopy to measure the absorption spectra of LiNbO3 and H2O vapor. Also, the use of MgO-doped LiNbO3 (MgO:LiNbO3) in the authors' terahertz regime, as well as its far-IR properties, is described. The MgO:LiNbO3 TPO is almost five times more efficient than the undoped LiNbO3 TPO, and the enhancement mechanism originates from the enhanced scattering cross section of the lowest A1-symmetry mode in a spontaneous Raman expt.

L24 ANSWER 30 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 133:65744 CA
TI A three-diode-laser, terahertz-difference-frequency synthesizer and its applications toward far-infrared spectroscopy of ammonia and water
AU Chen, Pin; Pearson, John C.; Pickett, Herbert M.; Matsuura, Shuji; Blake, Geoffrey A.
CS Time and Frequency Division, National Institute of Standards and Technology, Boulder, CO, 80303, USA
SO OSA Trends in Optics and Photonics Series (2000), 31(Advanced Semiconductor Lasers and Their Applications), 103-105
AB A solid-state, high-resoln., frequency-calibrated THz spectrometer is presented based on the THz optical heterodyne conversion (TOHC) in low-temp.-grown GaAs using distributed Bragg reflector lasers. The exptl. setup is depicted and described. Spectroscopical investigations were carried out with such a spectrometer for 14NH3 in the $\nu_2 = 1$ state and for H216O in the ground and the $\nu_2 = 1$ state. Twenty-six ψ_2-NH3 pure inversion and inversion-rotation transitions were measured with a 20 times higher accuracy than for previously published values. Six rotational transitions of H2O were measured in the ground state and 11 ones in the ν_2 state.

L24 ANSWER 37 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 131:176485 CA
TI Improving the power and spectral performance of a 27-33 THz AgGaS2 difference-frequency spectrometer
AU Kaing, T.; Zondy, Jean-Jacques; Yelisseyev, A. P.; Lobanov, S. I.; Isaenko, Ludmila I.
CS Laboratoire Primaire du Temps et des Frequences, Bureau National de Metrologie/Observatoire de Paris, Paris, F-75 014, Fr.
SO IEEE Transactions on Instrumentation and Measurement (1999), 48(2), 592-595
AB Progress toward the achievement of a compact, subkilohertz resoln.

difference-frequency spectrometer to probe narrow satd. mol. transitions in the 9-11 μm range is reported. The spectrometer, presently generating 40 nW of IR (IR) power [8], uses a type-I cut AgGaS2 crystal located in a dual-cavity resonator design. A frequency-stabilized all-diode-laser radiation setup was implemented to obtain the required mid-IR spectral purity and frequency tuning range. Further exptl. investigations show that a type-II phase-matched AgGaS2 crystal or a walk-off-compensated, two-crystal device would yield at least two times larger conversion efficiency than type-I cut samples. These improvements should help to reach the goal of the microwatt-level output for the IR radiation.

L24 ANSWER 53 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 129:128727 CA
TI Optical pump-terahertz probe spectroscopy utilizing a cavity-dumped oscillator-driven terahertz spectrometer
AU Flanders, Bret N.; Arnett, David C.; Scherer, Norbert F.
CS Department of Chemistry and the James Franck Institute, University of Chicago, Chicago, IL, 60637, USA
SO IEEE Journal of Selected Topics in Quantum Electronics (1998), 4(2), 353-359
AB A terahertz spectrometer capable of steady-state and time-resolved, measurements over the 0.1-3.5-THz spectral region was built. This spectrometer routinely produces and detects terahertz pulses that exhibit signal-to-noise ratios (SNR's) >6000 in the time domain and a spectral noise floor of magnitude 2.7 × 10-4. Hence, the spectrometer achieves nearly four decades of dynamic range in the frequency domain. Two pulse generation processes give rise to the measured terahertz pulse. High-quality optical pump-terahertz probe data on (111) GaAs samples are presented, demonstrating the applicability of this spectrometer to the study of optically induced dynamical processes. Non-Drude relaxation behavior is obsd. in the transient terahertz spectra.

L24 ANSWER 126 OF 293 INSPEC (C) 2008 IET on STN
AN 1992:4250489 INSPEC DN A1992-22-0765-001; C1992-11-7320-040
TI The automatized millimeter wave spectrometer
AU Alekseev, E.A. (Inst. of Radioastron., Acad. of Sci. of the Ukraine, Kharkov, Ukraine)
SO Proceedings of the SPIE - The International Society for Optical Engineering (1992), vol.1811, p. 408-9, 0 refs.
AB An automated millimeter wave spectrometer intended for detailed investigation of molecular spectra has been built. The computer controlled millimeter band frequency synthesizer having capacity for range extension to the submillimeter region is the heart of the spectrometer. The frequency synthesis in millimeter band is achieved by means of two-step frequency multiplication of the reference frequency synthesizer output (390-400 MHz) in phase-locked loops. For phase noise spectrum enhancement a F/G-band klystron oscillator is used. To operate in the short-wave region of millimeter band the system is equipped with a frequency multiplier

L24 ANSWER 197 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 97:190603 CA
OREF 97:31723a,31726a
TI The rotation-inversion spectrum of isocyanamide, H2NNC, in the millimeter wave region
AU Schaefer, Eckhard; Winnewisser, Manfred
CS Phys. Chem. Inst., Justus-Liebig-Univ. Giessen, Giessen, D-6300, Fed. Rep. Ger.
SO Berichte der Bunsen-Gesellschaft (1982), 86(9), 780-90
AB The rotation-inversion spectrum of isocyanamide, was investigated in the frequency range 100-400 GHz. Owing to the near C2v symmetry of the inverting mol., 2 types of dipole transitions were obsd.: (1) intrasystem a-type transitions and (2) intersystem or rotation-inversion c-type transitions connecting the 2 energy manifolds of H2NNC belonging to the inversion states O+ and O-, resp. The inversion splitting is 0.369 cm-1, indicative of a high barrier to inversion. Pure inversion transitions are not allowed. The rotation-inversion anal. was carried out for 240 a-type and c-type transitions using S-reduced Hamiltonians according to J.K.G. Watson (1977) for the O+ and O- inversion states sepd. by the inversion splitting Einv. Spectroscopic consts. and centrifugal distortion consts. were obtained for both states. The present data and their anal. provide an excellent basis for a radioastronomical search for H2NN≡C.

L24 ANSWER 217 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 93:83942 CA
OREF 93:13357a,13360a
TI Millimeter wave spectrum of barium sulfide in a low-pressure flame. Current millimeter wave measurements of high-temperature species
AU Helms, David A.; Winnewisser, Manfred; Winnewisser, Gisbert
CS Phys.-Chem. Inst., Justus-Liebig-Univ., Giessen, D-6300, Fed. Rep. Ger.
SO Journal of Physical Chemistry (1980), 84(14), 1758-65
AB The millimeter wave spectra of 6 isotopic species of BaS were obtained in a chemiluminescent flame by the reaction Ba + OCs = BaS + CO entrained in Ar gas. The 6 isotopic species 134Ba32S, 135Ba32S, 136Ba32S, 13Ba32S, 138Ba32S, and 138Ba34S were measured and analyzed in the vibrational and electronic X1Σ ground state in the 70-GHz region. Data on the first excited vibrational states of the 135Ba32S, 136Ba32S, 137Ba32S, and 138Ba32S species were also obtained. From these measurements the Dunham consts. y01, Y02, Y11, Y12, and Y21 have been detd. The internuclear distance of BaS has been reevaluated: re(BaS) = 2.5073184(15) Å.

L24 ANSWER 253 OF 293 INSPEC (C) 2008 IET on STN
AN 1975:797152 INSPEC DN A1975-052523; B1975-030514; C1975-018910
TI Increasing the resolving power of a submillimeter radiospectroscope with a backward wave tube and an acoustic detector
AU Val'dov, A.N.; Gershtein, L.I.; Karyakin, E.N.; Krupnov, A.F.; Maslovskii, A.V. (Sci.-Res. Radio-Phys. Inst., Gor'kii, USSR)
SO Instruments and Experimental Techniques (Sept.-Oct. 1974), vol.17, no.5, pt.1, p. 1373-5, 9 refs.
Translation of: Pribory i Tekhnika Eksperimenta (Sept.-Oct. 1974),

vol.17, no.5, pt.1, p. 110-12
AB The authors report on a) the elevation of the resolving power to the limiting value of 2×10-6 determined by the Doppler broadening of the lines; b) the elevation of the accuracy with which the frequencies of the spectral lines in the RAD acoustic detector are measured to 2×10-7; and c) achievement (for the first time) of recording of submillimeter spectra of gases having a high resolving power and accurate frequency markers in a continuous band having a width of up to 3 GHz at frequencies of up to 500 GHz (λ=0.6 mm)

L24 ANSWER 254 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 81:31371 CA
OREF 81:4995a,4998a
TI Millimeter wave spectrum of deuterofulminic acid. An example of current measurements in the frequency range 60 to 350 GHz
AU Winnewisser, Manfred; Winnewisser, Brenda P.
CS Inst. Phys. Chem., Univ. Kiel, Kiel, Fed. Rep. Ger.
SO Zeitschrift fuer Naturforschung, Teil A: Astrophysik, Physik und Physikalische Chemie (1974), 29(4), 633-40
AB An efficient system and method for on-line data acquisition and redn. for millimeter wave measurements with automatic absorption line center detn. is presented. The rotational transitions for the ground and 1st excited state of the bending modes ν4 and ν5 of DCNO are measuredwith the above system to be B0 10,292.48340(31), Bν4 10,306.-00780(45), Bν5 10,338.65942 (32) MHz; D0 3.5418(10), Dν4 3.6409(22), and Dν5 3.6208(16) kHz.

L24 ANSWER 258 OF 293 INSPEC (C) 2008 IET on STN
AN 1974:650404 INSPEC DN B1974-024320
TI Frequency markers providing resolution of 1 kHz for swept-microwave measurements
AU Hoefer, W.J.; Painchaud, G.R. (Univ. Ottawa, Ont., Canada)
SO Electronics Letters (18 April 1974), vol.10, no.8, p. 123-4, 3 refs.
AB Describes a method of generating high-precision frequency markers for swept-microwave measurements, using a spectrum analyser. Narrowband parameters, such as the Q factors of microwave cavities, can be measured with a resolution of 1 kHz

L24 ANSWER 262 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 76:52407 CA
OREF 76:8419a,8422a
TI Millimeter wave rotational spectrum of fulminic acid vibrationally excited states
AU Winnewisser, Manfred; Winnewisser, Brenda P.
CS Dep. Phys., Mississippi State Univ., State College, MS, USA
SO Journal of Molecular Spectroscopy (1972), 41(1), 143-76
AB A mm-wave spectrometer equipped with a free space cell and online computer averaging was employed to measure the absorption spectrum of H12C14N16O in the frequency range from 40 to 300 GHz. For each

rotational transition up to J=11→12, all of the l components of transitions in the following vibrational states were obsd. and analyzed: 0000020,2, 0000031,3, 00020,200, and 000(11)0,2. The method of anal., carried out on the basis of the Nielsen-Amat formulation of the rotation-vibration interaction in linear mols., is discussed. The unperturbed rotational consts. Bv and Dv as well as several vibration-rotation consts. were detd. by using sum rules valid for each group of perturbed levels and lines. The vibrational anharmonicity consts. gltlt' were detd. for the 1st time from pure rotational transitions. An interpretation of the results of the anal., esp. for the v5=2 and v5=3 states, is given. The obsd. anomalies indicate the presence ofa potential function with a hump disturbing the isotropic 2-dimensional oscillator potential for **v**5, the low-lying degenerate bending mode. In the case of the combination state 000(11)0,2 the vibrational l-type doubling consts. r45(0)=-0.81±1.00 cm-1 and r45(1)=0.6565±0.0027 MHz were evaluated for the 1st time from mm-wave rotational transitions.

L24 ANSWER 266 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 74:118036 CA
OREF 74:19077a,19080a
TI On-line data aquisition and reduction system for millimeter and submillimeter wave spectroscopy
AU Winnewisser, Manfred
CS Inst. Phys. Chem., Univ. Kiel, Kiel, Fed. Rep. Ger.
SO Zeitschrift fuer Angewandte Physik (1971), 30(6), 359-70
LA German
AB On-line use of a small computer for signal averaging in conjunction with a video-type spectrometer is suitable for accurate measurements of spectra of unstable mol. species in the region 30-600 GHz, and for rapidly evaluating frequencies and assignments of transitions. Performance of the system is illustrated by measurements of the spectra of fulminic acid.

L24 ANSWER 276 OF 293 CA COPYRIGHT 2008 ACS on STN
AN 67:48835 CA
OREF 67:9151a,9154a
TI Measurement of the direct l-doublet transitions in carbonyl sulfide
AU Maki, Arthur G.
CS Natl. Bur. of Stds., Washington, DC, USA
SO Journal of Molecular Spectroscopy (1967), 23(1), 110-11
AB The **Δ**J = 0 L-doublet transitions in the 01'0 vibrational state were measured for 16O12C32S (carbonyl sulfide) and 16O13C32S. The observed transition frequencies are tabulated along with deviations from the calcd. frequencies. Measurements were made at room temp. on the gas with a conventional Stark modulated microwave spectrometer. A digital memory oscilloscope was used as an integrating device. Calibration was achieved by frequency markers generated by an oscillator locked to the National Bureau of Standards standard frequency. The math. equations used in the calcns. are shown.

L24 ANSWER 288 OF 293 INSPEC (C) 2008 IET on STN

AN 1967:A16123 INSPEC DN 1967A16123
TI A stark modulation microwave spectrograph
AU Rajput, A.S.
SO Bulletin of the National Institute of Sciences of India (1965), no. 30, p. 62-68 Conference: Symposium on Spectroscopy at Radio and Microwave Frequencies, Bombay, India, 4 Jan. 1964, - 5 Jan. 1964
AB A recording type Stark Modulation Microwave Spectrograph has been set up along with a Frequency Standard which gives frequency markers up to 40 kmc/s. The sensitivity of the spectrograph has been experimentally determined with the help of standard ammonia lines. It is found that the lines with intensity 10-8 cm-1 can be easily detected. A slow tuning motor is used to sweep the klystron mechanically and a H-B recorder is used for the recording of the lines. Stark splitting of standard ammonia lines has been used to determine the resolution which can be obtained. The resolution obtained is about 100 kc. Some new lines of formic acid (HCOOH) have been recorded and the assignment is being attempted.

=> log y
STN INTERNATIONAL LOGOFF AT 09:20:14 ON 15 MAR 2008